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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/723,480
Filing Date	November 28, 2000
In re Application of:	David E. MCDYSAN et al.
Group Art Unit	2155
Customer No.	25537
Examiner Name	Bates, K.
Attorney Docket Number	09710-1234
Total Number of Pages in This Submission: 40	Client Docket Number: RIC 00 044

ENCLOSURES ***(check all that apply)***

☒ Fee Transmittal Form	☐ Assignment Papers *(for an Application)*	☐ After Allowance Communication to Group
☐ Fee Attached	☐ Drawing(s)	☐ Appeal Communication to Board of Appeals and Interferences
☐ Amendment / Response	☐ Licensing-related Papers	☒ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
☐ After Final	☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition	☐ Proprietary Information
☐ Affidavits/declaration(s)	☐ To Convert a Provisional Application	☐ Status Letter
☐ Extension of Time Request	☐ Power of Attorney, Revocation Change of Correspondence Address	☐ Additional Enclosure(s) *(please identify below):*
☐ Express Abandonment Request	☐ Terminal Disclaimer	
☐ Information Disclosure Statement	☐ Small Entity Statement	
☐ Certified Copy of Priority Document(s)	☐ Request of Refund	
☐ Response to Missing Parts/ Incomplete Application	Remarks	
☐ Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm *or* Individual name	DITTHAVONG & CARLSON, P.C. Margo Livesay, Ph.D., Reg. No.41,946
Signature	Margo Livesay
Date	March 25, 2005

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Alexandria, VA 22313-1450 on this date:

Type or printed name	Linda V. Wiley		
Signature		Date	March 25, 2005

PTO/SB/17 (12-04)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Effective on 12/8/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005

☐ Applicant Claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT **($) 500.00**

Complete if Known	
Application Number	09/723,480
Filing Date	November 28, 2000
First Named Inventor	McDysan, et al.
Examiner Name	Bates, K.
Customer No.	25537
Art Unit	2155
Attorney Docket No.	09710-1234

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):_____

☒ Deposit Account Deposit Account Number: 13-2491 Deposit Account Name: MCI, Inc.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charges fee(s) indicated below, **except for the filing fee**

☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 20 or HP =	_____	x $50.00 =	_____

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 3 or HP =	0	x $ =	_____

HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims: Fee ($) $360.00 — Fee Paid ($) _____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41 (a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
0 - 100 =	0	/ 50 = 0 (round up to a whole number) x	$250.00 =	$ 0.00

4. OTHER FEE(S) Fees Paid($)

Non-English Specification, $130 fee (no small entity discount) _____

Other: Appeal Brief Filing Fee **$500**

SUBMITTED BY

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Name (Print/Type)	Margo Livesay, Ph.D.		Date March 25, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	David E. MCDYSAN et al.	Conf. No.:	7587
Application No.:	09/723,480	Group Art Unit:	2155
Filed:	November 28, 2000	Examiner:	Bates, K.
Customer No.:	25537		
Attorney Docket:	RIC 00 044		
Client Docket:	09710-1234		

For: MESSAGE, CONTROL AND REPORTING INTERFACE FOR A DISTRIBUTED NETWORK ACCESS SYSTEM

APPEAL BRIEF

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated January 26, 2005.

I. REAL PARTY IN INTEREST

MCI, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF THE CLAIMS

Claims 1-40 are pending in this appeal. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-40 on September 27, 2004.

IV. STATUS OF AMENDMENTS

The amendment to claim 6 filed November 18, 2004 has been entered and is relied upon in this appeal.

V. SUMMARY OF THE INVENTION

The present claimed invention addresses problems associated with a network access system. More particularly, the present invention relates to an IP-based communication network including a network access system having distributed and separate routing, signaling, service control, filtering, policy control and other functionality from IP forwarding. (Specification, page 1, lines 25-29)

Conventional monolithic router designs have limited flexibility and extensibility. The present invention recognizes that it would be desirable, in view of the rapid growth of Internet traffic, to dynamically provision, configure, and/or reallocate access capacity to IP-based services. Because access capacity is necessarily limited and providing additional access capacity is a major cost component of networks, the enforcement of intelligent admission control policies and provision of differing qualities of service is vital to the efficient utilization of available access capacity. However, conventional edge routers are not capable of classifying a wide variety of traffic types while enforcing policy controls or of responding to dynamic requests for capacity, and this functionality is difficult to incorporate within currently deployed monolithic edge routers. The present invention accordingly recognizes that it would be desirable to provide the

above as well as additional policy control, network monitoring, diagnostic, and security services in commercialized hardware, while permitting these services to be tailored to meet the needs of individual customers and service providers. (Specification, page 3, line 30 - page 4, line 14)

A distributed network access system architecture including at least an external processor and a programmable access device is introduced. The network access system may further include an access router coupled to the programmable access device.

The external processor transmits a control message to the programmable access device to establish a configuration of the programmable access device. The programmable access device then communicates messages to the external processor for service processing in accordance with the configuration. For example, the control message may be a filter control message that establishes a configuration of a packet header filter in the programmable access device. The packet header filter then communicates network messages filtered from a packet flow in accordance with the configuration established by the control message. To limit communication of network messages from the programmable access device to the external processor, the programmable access device can send a message setting message interface flags in the programmable access device. The external processor may also transmit a monitor control message to the programmable access device to establish a configuration of a monitor in the programmable access device. The programmable access device then communicates reporting messages to the external processor in response to the configuration of the monitor.

Thus, conventional, proprietary edge routers are replaced with a distributed network access system that allocates the functionality of traditional edge routers (as well as additional functionality) among three logical modules: a programmable access device, an external processor, and an access router. Basic routing of packets between input and output ports of the access

network is performed by the access router. However, forwarding and generic traffic conditioning functions, such as marking, policing, monitoring, shaping, and filtering, are implemented in the programmable access device, and service functions, such as message interpretation, signaling, admission control, and policy invocation, are implemented in the external processor. This distribution of functionality results in numerous advantages, including improved scalability, flexibility, extensibility, interoperability, security, and service provisioning. (Specification, page 5, line 3 - page 6, line 7)

If filtering functionality of the programmable access device (PAD) 40 detects packet flows for which services, additional to typical services afforded by the configuration to incoming and outgoing packets are appropriate, the programmable access device 40 passes appropriate messages to the external processor 42 for service processing via a Message, Control, and Reporting Interface (MCRI) 58, which can be accessed via an Application Programming Interface (API) on the programmable access device 40 and external processor 42. Distributing functionality between access router 44, programmable access device 40 and external processor 42 in this manner gives the service provider (or even third parties) the freedom to extend and modify existing services, create new services, or add more processing power to external processor 42 without adversely affecting the forwarding performance of the programmable access device 40 and the routing performance or functionality of access router 44.

To implement a desired functionality for programmable access device 40 and external processor 42, the service provider (or even a customer or third party) can define policy rules in the policy database 46 of one or more servers 48 (also referred to as a policy decision point (PDP)). Policy server 48 then makes policy decisions that control the functionality and operation of programmable access device 40 and external processors 42 by reference to the policy rules

stored in policy database 46. Policy server 48 communicates policy decisions and associated configuration parameters for external processor 42 via a Service Policy Interface (SPI) 56, which can be accessed, for example, via an application program interface (API) on policy server 48 and external processor 42. Communication via Service Policy Interface 56 can employ any of a number of policy query protocols, including Common Open Policy Service (COPS) and Lightweight Directory Access Protocol (LDAP), which are respectively defined by Internet Engineering Task Force (IETF) RFCs 2748 and 2251. External processor 42 relays configuration parameters for programmable access device 40, if any, to programmable access device 40 via Message, Control, and Reporting Interface 58. (Specification, page 12, lines 4-31, FIGs. 2, 4)

Generally speaking, the functional modules of programmable access device 40 are logically arranged in incoming (e.g., from customer router 32) and outgoing (e.g., to customer router 32) traffic paths, with the incoming path including packet header filter 80, marker/policer 82, monitor(s) 84, forwarding table 86, and output buffers and scheduler 88. The outgoing path similarly includes packet header filter 90, forwarding table 86, monitor(s) 92, marker/shaper 94, and output buffers and scheduler 96. The functions of all of these functional modules can be independently configured or programmed by an external processor 42 through Message, Control, and Reporting Interface 58.

Incoming packets received from customer router 34 at the external interface of programmable access device 40 are first processed by packet header filter 80, which distinguishes between various message types using any one or a combination of the protocol type, Source Address (SA), Destination Address (DA), Type Of Service (TOS), Diffserv Codepoint (DSCP), Source Port (SP), Destination Port (DP), and other fields of a packet (e.g., layer 4 and higher layer fields such as the SYN, ACK, RST, and FIN TCP flags) upon which packet header filter 80

is configured to filter. In addition to filtering on layer-3 information, packet header filter 80 has the ability to identify higher layer (i.e., layer 4-7) message types or specific fields and forward those messages from/to external processor 42 based on the configured filter parameters. Thus, based upon its filter configuration and the fields of an incoming packet, packet header filter 80 directs the packet either to an external processor 42 via message interface 100 or to a specific marker/policer 82. Message interface 100 may also inject a packet specified by external processor 42 into either of packet header filters 80 and 90. (Specification, page 14, lines 7-32, FIGs. 2, 3)

After processing by packet header filter 80, incoming packets are processed by forwarding table 86. Forwarding table 86 maintains entries for each forwarding path, where each forwarding path is represented by packet flow attributes, such as DA, SA, TOS, PT, SP, DP, the incoming port, and the corresponding output port to which programmable access device 40 forwards the packet through the access network toward access router 44. Utilizing these forwarding table entries, forwarding table 86 forwards packets to the appropriate output ports and passes the packets to output buffers and scheduler 88. Output buffers and scheduler 88 buffer packets ready for transmission over communication network 30 and schedule the transmission of such packets. (Specification, page 15, line 29 - page 16, line 9, FIGs. 2, 3)

The outgoing path through programmable access device 40 is similar to the incoming path, except for the inclusion of marker/shaper 94 in lieu of marker/policer 82. Marker/shaper 94 discards nonconforming packets, sends marked packets to appropriate output buffers for the various queues serving different QoS classes for individual flows within output buffers and scheduler 96 to control the delay, jitter and loss of an outgoing packet flow, or simply counts non-conforming packets. (Specification, page 16, lines 24-30, FIGs. 2, 3)

The external processor 42 performs three types of processing: invoking policy services, signaling to setup and teardown access network connections, and configuring one or more associated programmable access devices 40. To coordinate these different processing functions, external processor 42 contains one or more service controllers 120, which each may control these three functions for a respective type of service. For example, service controllers 120 may include any or all of a Conference Call Service Controller (CCSC), an E-Commerce Service Controller (ECSC), an IP Telephony Service Controller (IPTELSC), a Reserved Bandwidth Service Controller (RBSC), and a Multicast Service Controller (MSC). Each service controller may maintain a session table recording all of its active sessions with a programmable access device.

As further shown in FIG. 4, external processor 42 includes, for each associated programmable access device 40, a respective programmable access device controller 124. Under the direction of service controller(s) 120, each programmable access device controller 124 configures forwarding table 86, packet header filters 80 and 90, marker/policer 82, marker/shaper 94, monitors 84 and 92, and output buffers and schedulers 88 and 96 of the associated programmable access device 40 by invoking commands or scripts understood by control interface 104. External processor 42 also contains a respective message processor 122 for each associated programmable access device 40. Message processors 122 each communicate messages to and from the message interface 100 of the associated programmable access device 40. Upon receipt of a message from a programmable access device 40, which is usually a message received from the customer router 32, a message processor 122 parses the message and informs the appropriate service controller (as determined by the type of service) of its contents. (Specification, page 18, lines 4-31, FIGs. 3, 4)

In response to receipt of a policy decision from policy server 48, service controller 120 may inject one or more packets into a traffic flow via message processor 122, configure a programmable access device 40 via programmable access device controller 124 or control signaling inside or outside communication network 30 via signaling controllers 128a and 128b. Signaling controllers 128 support signaling protocols (e.g., Resource ReSerVation Protocol RSVP, Label Distribution Protocol (LDP), Private Network-Network Interface (PNNI), frame relay or ATM User Network Interface (UNI), etc.) to setup or tear down a Virtual Connection (VC) or Label Switched Path (LSP) across the network. A VC or LSP setup by a signaling controller 128 may have a specified Quality of Service (QoS). (Specification, page 19, lines 22-31, FIGs. 2, 4)

Reporting interface 102 sends reporting messages to reporting processor 126 of external processor 42. The reporting messages tabulated in Table II, shown on pages 24-25 of the specification, include messages providing information about monitored sessions, messages related to communication between programmable access device 40 and service controllers 120 of external processor 42, and messages containing statistics collected by monitors 84 and 92. For protocols such as TCP and SIP, programmable access device 40 implements a state machine for each active session. If a TCP state machine detects that a particular active TCP session has had a number of retransmissions in excess of an established retransmission threshold, reporting interface 102 sends a message notifying message processor 122 of external processor 42 that the TCP retransmission threshold has been exceeded, thus indicating that the TCP session has failed. Reporting processor 126 similarly reports other session failures such as the expiration of an inactivity timer on certain IP protocol sessions, such as TCP and SIP. For other data flows (e.g., UDP sessions) that do not have associated state machines to ensure reliability, reporting interface

102 of programmable access device 40 sends "Activity Detected" reporting messages when activity is detected in the session.

The connection state between a programmable access device 40 and external processor 42 is indicated by keepalive messages that are periodically exchanged between each programmable access device 40 and the associated external processor 42. The absence of a keepalive message programmable access device 40 indicates the failure of programmable access device 40 itself. (Specification, page 22, line 32 - page 23, line 26, FIGs. 2, 3, 4)

Table II lists two exemplary reporting messages triggered by the monitoring performed by monitors 84 and 92. First, reporting interface 102 can provide general usage statistics on a per-customer basis. Service controllers 120 in external processor 42 can utilize this statistical information to measure conformance to SLAs and detect certain events of interest. Second, reporting interface 102 can specifically indicate in a reporting message that a customer's predefined traffic threshold has been exceeded. (Specification, page 24, lines 13-24, FIGs. 2, 3, 4)

As shown in Table III on pages 25-26 of the specification, the control messages sent from programmable access device controller 124 to control interface 104 via Message, Control, and Reporting Interface 58 include a number of configuration messages that enable a programmable access device controller 124 to configure any of the filtering, marking, policing, monitoring, buffering, scheduling, shaping and forwarding functional modules 80-96 of programmable access device 40 through control interface 104. In particular, output buffers and schedulers 88 and 96 can be configured to allocate a number of buffers or size of buffer per traffic class or traffic flow or to implement CBQ, WFQ, WRR or other buffer scheduling algorithms. Programmable access device controller 124 can also configure marker/shaper 94 to employ static or adaptive shaping

algorithms and can configure marker/shaper 94 to implement shaping on a per traffic flow or per traffic class basis. Programmable access device controller 124 can further configure forwarding table 86 in response to a request by a service controller 120 in order to enable the service controller 120 to associate a data flow with an ATM SVC or a MPLS LSP.

In addition to general control messages utilized to configure functional modules 80-96, Message, Control, and Reporting Interface 58 also supports various control messages utilized to configure particular features of the functional modules of programmable access device 40. For example, packet header filters 80 and 90 can be configured to drop multicast packets from an unauthorized source, to admit or deny source routing for a data flow, or to admit only packets with specific source addresses. In addition, programmable access device controller 124 can update forwarding table 86 with SVC and LSP paths setup by a service controller 120 using a signaling controller 128. Reporting interface 102 can be configured via a "Set reporting flags" control message to enable or disable reporting of selected events by setting or resetting reporting flags corresponding to these events. Programmable access device 40 can also be configured via Message, Control, and Reporting Interface control messages to set the TCP retransmission notification threshold, inactivity timers, activity timers and traffic threshold. Finally, the processing resources of programmable access device 40 and output buffers and scheduler 88, 96 can be configured by an "Allocate Resource" control message sent via Message, Control, and Reporting Interface 58 and control interface 104 to dynamically allocate resources, such as bandwidth, queues, and processing time slices, to a customer interface, a packet flow, a class, or a multicast group. The reporting messages sent from reporting processor 126 of external processor 42 to programmable access device 40 are generally limited to exchanging keepalive messages with reporting interface 102. The continued exchange of keepalive messages informs

programmable access device 40 that the associated service controller 120 is operative. (Specification, page 25, line 14 - page 26, line 22, FIGs. 2, 3, 4)

The reporting messages sent from reporting processor 126 of external processor 42 to programmable access device 40 are generally limited to exchanging keepalive messages with reporting interface 102. The continued exchange of keepalive messages informs programmable access device 40 that the associated service controller 120 is operative.

With reference to FIG. 7D, a time-space diagram illustrates exemplary network access system signaling to close a TCP connection in accordance with the present invention. In the example shown in FIG. 7D, the server application initiates closure of the TCP session by instructing its TCP agent to close the connection. Accordingly, the server's TCP agent sends a FIN segment, informing the client application that it will send no more data. In response to receipt of FIN segment, programmable access device 40 resets the TCP state machine for the connection to idle state 142 and passes the FIN segment to e-commerce service controller (ECSC) 120. E-commerce service controller 120 responds by deleting the TCP session from its active session table and by configuring programmable access device 40 to stop marking packets for this TCP session and to remove the session's inactivity timer and retransmission setting. Programmable access device 40 also forwards FIN segment to the client, which acknowledges receipt of the FIN segment with an ACK that is passed to the server by programmable access device 40. The client application then commands its TCP agent to close the session. The client's TCP agent therefore sends a FIN message to the server's TCP agent via programmable access device 40. (Specification, page 37, lines 11-31, FIGs. 2, 3, 7A, 7D)

With reference to FIG. 7F, a route between a customer and a server is disrupted by failure of a network link or node. This failure causes the TCP agent and the client to re-transmit the data

until a threshold number of retransmissions is reached. The client's TCP agent then aborts the TCP connection. Subsequently, the inactivity timer for the TCP session in programmable access device 40 expires. In response to expiration of the inactivity timer, programmable access device 40 updates state machine 140 of the TCP session to idle state 142 and reports the TCP session timeout error to e-commerce service controller 120. E-commerce service controller 120 responds to the report of the timeout error by deleting the TCP session from its active session table and instructs programmable access device 40 to stop marking the packets for the TCP session and to delete the configuration for this TCP session. Programmable access device 40 then deletes the state machine for the TCP session. (Specification, page 38, line 25 - page 39, line 3, FIGs. 2, 3, 4, 7A, 7F)

In summary, a distributed network access system consistent with features of the present invention replaces a monolithic edge router with a programmable access device containing at least filtering and forwarding functionality, an external processor having one or more service-specific controllers that implement policy-based control of the programmable access device, and an access router that performs basic routing. This distributed architecture has numerous benefits over conventional monolithic router architectures, including scalability flexibility, extensibility, interoperability, security, and service provisioning. (Specification, page 50, line 29 - page 51, line 5)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 4, 6, 8-9, 14-16, 18-21, 24, 26, 28, 33-35, and 37-40 are anticipated under 35 U.S.C § 102(b) by *Gibson al.* (U.S. 6,680,943).

Whether claims 2, 7, 10-12, 22, 27, and 29-31 are obvious under 35 U.S.C. § 103(a) based on *Gibson et al.* in view of *Gai et al.* (U.S. 6,651,096).

Whether claims 13 and 32 are obvious under 35 U.S.C. § 103(a) based on *Gibson et al.* in view of *Nilakantan et al.* (U.S. 5,541,911).

Whether claims 3 and 23 are obvious under 35 U.S.C. § 103(a) based on *Gibson et al.* and *Gai et al.* and further in view of *Nilakantan et al.*

Whether claims 5 and 25 are obvious under 35 U.S.C. § 103(a) based on *Gibson et al.* in view of *Haas* (U.S. 5,115,432).

Whether claims 17 and 36 are obvious under 35 U.S.C. § 103(a) based on *Gibson et al.* in view of *Sauter* (U.S. 5,537,546).

VII. ARGUMENT

A. CLAIMS 1, 4, 6, 8-9, 14-16, 18-21, 24, 26, 28, 33-35, AND 37-40 ARE NOT ANTICIPATED OVER *GIBSON ET AL.*

To anticipate a patent claim, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001); *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

A prior art reference anticipates a patent claims if it discloses every limitation of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477, 44

USPQ2d 1429, 1431 (Fed. Cir. 1997). "Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates." *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999).

Well-settled case law holds that the words of a claim must be read as they would be interpreted by those of ordinary skill in the art. *In re Baker Hughes Inc.,* 215 F.3d 1297, 55 USPQ2d 1149 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); M.P.E.P. 2111.01. "Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one that those skilled in the art would reach." *In re Cortright,* 165 F.3d 1353, 1369, 49 USPQ2d 1464, 1465 (Fed. Cir. 1999).

The rejection of claims 1-40 must be reversed, because *Gibson et al.* does not disclose the limitations of the claims.

Independent claim 1, directed to a method of communication in a network access system, recites, "**transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device**" and "**communicating a first portion of the received messages from the programmable access device to the external processor for service processing in accordance with the configuration.**" Independent claim 21, directed to a network access system, recites, "an **external processor that transmits a control message specifying a configuration**" and "a **programmable access device** that receives messages from a first network external to the network access system via a first network interface, and that, **responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for service processing in accordance with the configuration.**"

Independent claim 40, directed to a distributed router, recites, "a programmable access device configured to input messages from the first network via the first network interface" and "an **external processor configured to receive, from the programmable access device, a first portion of the input messages and to transmit a control message to the programmable access device specifying a configuration to control the selection of the first portion**."

In stark contrast, *Gibson et al.* (col. 1: 8-12) is concerned with establishing a bi-directional communication session between two endpoints in a communication network, particularly with situations where it is required to provide a guaranteed quality of service for the connection.

Regarding the anticipation rejection of independent claims 1 and 21, the Examiner (Office Action dated September 27, 2004, page 2) contends that "transmitting a control message from the external processor to the programmable access device to **establish a configuration of the programmable access device**" is disclosed by *Gibson et al.* at col. 24: 43-51, col. 23: 4-8, and col. 9: 40-44. The cited portions of *Gibson et al.* discuss the sending of a request for a communication session from an endpoint to an admission manager and the sending of a **validation and details of a chosen, reserved path for the requested session to the endpoint** together with an identifier for the reserved path. The Examiner (Office Action dated September 27, 2004, page 3) further contends that "communicating a first portion of the received messages from the programmable access device to the external processor for service processing **in accordance with the configuration**" is disclosed by *Gibson et al.* at col. 24: 28-34 and col. 9: 32-34. However, at col. 9: 32-34, *Gibson et al.* merely states, "New communication sessions requested by an endpoint are sent to an admission manager that is associated with the endpoint," and at col. 24: 28-35 *Gibson et al.* states:

> The first event is the arrival at an endpoint 1100 of a **new session request** 1101. There is no restriction on the type of request this can be, though it must obviously be one the endpoint 1100 understands. This causes the endpoint 1100 to **send a COPS Request** (labelled A1) to its associated Admission Manager 1102. Upon receipt of this Request, the Admission Manager 1102 determines the path or paths it will attempt to use to route the session to its destination.

As best understood, the Examiner equates the recited "programmable access device" with an endpoint of *Gibson et al.* and the recited "external processor" with the admission manager 1102 of *Gibson et al.* However, there is no disclosure in *Gibson et al.* of communicating any messages, received by the endpoint, from the endpoint to the admission manager "for service processing **in accordance with the configuration**" that is established supposedly as a result of "transmitting a control message from" the admission manager to the endpoint.

The Examiner (Advisory Action dated January 19, 2005) states:

> Regarding the argument to claim 1, the applicant argues that the reference, Gibson does not disclose a control message specifying a configuration and processing a service in accordance with the configuration. The examiner disargees [*sic*], because as seen in Column 24, line 28-34 and Column 9, lines 32-34, Gibson discloses a system where the access node receives a user or application request for a new session which is a service, the access node sends a message to the control manage [*sic*], the control manager takes the necessary actions to create a MPLS service for the user or application and inform all nodes of the new label and session, form [*sic*] that point on all the nodes in the system route the session based on the configuration that the control setup.

Appellants respectfully submit that the Examiner disregards the substance of the recited "transmitting a control message from the external processor to the programmable access device to **establish a configuration of the programmable access device**" **and** "communicating a first portion of the received messages from the programmable access device to the external processor for service processing **in accordance with the configuration**" and focuses instead on the "communicating" step with no regard to "**in accordance with the configuration**" which is clearly recited by independent claim 1, and which is discussed above. To anticipate, every

element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co., supra.* The Examiner has failed to meet this burden, and thus, the rejection of independent claim 1 should be reversed.

Moreover, Appellants respectfully submit that independent claim 21 recites, "an **external processor that transmits a control message specifying a configuration**" and "a programmable access device that receives messages from a first network external to the network access system via a first network interface, and that, **responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for service processing in accordance with the configuration.**" Similarly as discussed above with regard to claim 1, there is no disclosure in *Gibson et al.* of communicating any messages, received by the endpoint, from the endpoint to the admission manager "for service processing **in accordance with the configuration**" that is established as a result of "a control message specifying a configuration" that is supposedly transmitted from the admission manager. Thus, the rejection of independent claim 21 should also be reversed.

Regarding independent claim 40, the Examiner (Office Action dated September 27, 2004, page 5) contends that the recited "external processor configured to receive, from the programmable access device, a first portion of the input messages and to **transmit a control message to the programmable access device specifying a configuration to control the selection of the first portion**" is disclosed by *Gibson et al.* at col. 24: 28-34 and col. 9: 32-34. For reasons similar to those discussed above with regard to independent claims 1 and 21, Appellants respectfully submit that the recited features of claim 40 are also not disclosed by *Gibson et al.* To anticipate, every element and limitation of the claimed invention must be found

in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co., supra.* This requirement has not been met by the Examiner. Therefore, the rejection of claims 1, 21, and 40 is unsustainable and should be reversed.

The rejection of dependent claims 2, 4, 6, 8-9, 14-16, 18-20, 24, 26, 28, 33-35, and 37-39 should be reversed for at least the same reasons as those discussed above with regard to their respective independent claims, and these claims are separately patentable on their own merits.

For example, dependent claim 26 recites, "wherein the monitor control message specifies a threshold activity level." The Examiner (Office Action dated September 27, 2004, page 4) correctly acknowledges that "Gibson does not explicitly indicate transmitting a monitor control message comprises transmitting a threshold activity level," but cites col. 9: 32-37, without any explanation of why the rejection is appropriate. The rejection is confusing, as the Examiner admits the features are absent, but offers no explanation as to where or how such features can be met by the applied art. In the Advisory Action dated January 19, 2005, the Examiner states:

> Regarding the argument to claim 26, the applicant argues that there is no explication [*sic*] about the rejection, because the rejection states that the reference does not indicate the limitation. The examiner notes that the does not indicate is a typo in the action, and that the reference does teach the limitation based on the Column 9, lines 32-37 as noted in the rejection.

However, the cited passage discloses nothing regarding any type of "threshold activity level," but merely states, "New communication sessions requested by an endpoint are sent to an admission manager that is associated with the endpoint. That admission manager then uses the SIP++ protocol and a path for the requested session is determined and reserved in order to guarantee the requested quality of service." Even if the cited passage were somehow construed as disclosing the "threshold activity level," *Gibson et al.* would still fail in disclosing communicating any messages, received by the endpoint, from the endpoint to the admission

manager "for service processing **in accordance with the configuration**" that is established as a result of "a control message specifying a configuration" that is supposedly transmitted from the admission manager of *Gibson et al.* To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co., supra.*

Furthermore, dependent claim 14 recites, "transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a session deletion control message; and the method further comprises the programmable access device deleting a session specified by the session deletion control message." The Examiner (Office Action dated September 27, 2004, page 4) contends that this feature is disclosed by *Gibson et al.* at col. 12: 7-14, col. 12: 65 - col. 13: 17, and Figure 3, which merely discuss an **endpoint** in a communications path terminating a call by issuing a BYE message **to the other endpoint**, and do not disclose the **admission manager** 1102 transmitting a session delete control message to the endpoint discussed previously. In the Advisory Action dated January 19, 2005, the Examiner states:

> Regarding the argument to claim 14, the applicant argues that the reference, Gibson does not disclose a session deletion message, but the issue of a BYE message, indicates to the system that the session is done and the configurations that enabled the MPLS for that session are now outdated and the entire network is notified that the session is over thus deleting the session from the network.

The Examiner disregards "transmitting a control message **from the external processor to the programmable access device**" recited by claim 14, as the Examiner's apparent construction of the claims would require *Gibson et al.*'s **admission manager** 1102 to issue the BYE message to the endpoint, which is neither disclosed nor suggested by *Gibson et al.* Unless the patent otherwise provides, a claim term cannot be given a different meaning in the various claims of the

same patent. *Georgia Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1331, 52 USPQ2d 1590, 1598 (Fed. Cir., Nov. 1, 1999); see also *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1579, 34 USPQ2d 1673, 1679 (Fed. Cir. 1995) (holding that claim term found in different claims must be interpreted consistently); *Fonar Corp. v. Johnson & Johnson*, 821 F.2d 627, 632, 3 USPQ2d 1109, 1113 (Fed. Cir. 1987) (holding that a term used in one claim had the same meaning in another claim). Additionally, to anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co., supra.* Again the Examiner has failed in this regard, and thus, the rejections should be reversed.

B. CLAIMS 2-3, 5, 7, 10-13, 17, 22-23, 25, 27, 29-32, AND 36 ARE NOT RENDERED OBVIOUS BY *GIBSON AL., GAI ET AL., NILAKANTAN ET AL., HAAS,* AND *SAUTER.*

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed .Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

The Patent Office must give specific reasons why one of ordinary skill in the art would have been motivated to combine the references. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

The Administrative Procedures Act (APA) mandates the Patent Office to make the necessary findings and provide an administrative record showing the evidence on which the findings are based, accompanied by the reasoning in reaching its conclusions. See *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *In re Gartside*, 203 F.3d 1305, 1314, 53 USPQ2d 1769, 1774 (Fed. Cir. 2000). In particular, the Patent Office must articulate and place on the record the "common knowledge" used to negate patentability. *In re Zurko, id.*; *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002).

1. CLAIMS 2, 7, 10-12, 22, 27, AND 29-31 ARE NOT RENDERED OBVIOUS BY *GIBSON ET AL.* IN VIEW OF *GAI ET AL.*

Regarding the obviousness rejections of claims 2, 7, 10-12, 22, 27, and 29-31, Appellants respectfully submit that the deficiencies of *Gibson et al.* are not cured by the secondary reference of *Gai et al.*, particularly with respect to "**responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for service processing in accordance with the configuration.**" *Gai et al.* (per Abstract) is concerned with efficiently organizing, storing, and evaluating access control lists for use by an intermediate network device of a computer network. *Gai et al.* is cited (Office Action dated September 27, 2004, page 6) at col. 3: 55-57, col. 3: 17-40, and col. 8: 14-20 as supposedly teaching an improved way of configuring a network access device from an external source with access control lists and filtering out certain packets which are meant to be dropped, and at col. 6: 19-30 as supposedly teaching, in combination with *Gibson et al.*, "transmitting a control message comprises transmitting a policer control message to establish a configuration of a policer in the programmable access device," "transmitting a control message comprises transmitting a control message to establish a configuration of a scheduler and one or

more associated output buffers in the programmable access device," "transmitting a control message comprises transmitting a shaper control message to establish a configuration of a shaper in the programmable access device," and "transmitting a control message specifying a source from which packets are not to be accepted; and the method further comprises dropping packets from the specified source by the programmable access device" (Office Action dated September 27, 2004, page 7).

Claim 10 recites, "transmitting a control message comprises transmitting a control message to establish a configuration of a scheduler and one or more associated output buffers in the programmable access device." The Examiner apparently relies on a mere mention by *Gai et al.* of "a scheduler 422" (col. 6: 21) as a subcomponent of a "forwarding entity 404" (col. 6: 18-20), in combination with *Gibson et al.*, as teaching these recited features of claim 10. However, there is no mention or suggestion of any "associated output buffers" for the scheduler 422. Further, there is no disclosure or suggestion by either reference, alone or in combination, of "transmitting a control message to **establish a configuration** of a scheduler **and one or more associated output buffers** in the" endpoint of *Gibson et al.* This lack of disclosure, coupled with the lack of any explanation of how these features are met by the references, contravenes 35 U.S.C. § 132, which requires the Director to "notify the applicant thereof, stating the reasons for such rejection." This section is violated if the rejection "is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection." *Chester v. Miller*, 906 F.2d 1574, 15 USPQ2d 1333 (Fed. Cir. 1990). This policy is captured in the Manual of Patent Examining Procedure. For example, MPEP § 706 states that "[t]he goal of examination is to clearly articulate any rejection early in the prosecution process so that applicant has the opportunity to provide evidence of patentability and otherwise respond completely at the earliest

opportunity." Furthermore, MPEP § 706.02(j) indicates that: "[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to respond." In the Advisory Action dated January 19, 2005, the Examiner states:

> Regarding the argument to claim 10, the applicant argues that the combination of Gibson and Gai does not disclose any output bufferes [*sic*]. The examiner disagrees, as seen in Column 6, lines 19-30, of the reference Gai, the combination includes a shaper and a queue, which buffere [*sic*] outputs.

However, at col. 6: 18-23 *Gai et al.* states, "Forwarding entity 404 may include a plurality of conventional sub-components configured to implement QoS treatments, such as a packet/frame classifier 420, a scheduler 422, a shaper entity 424, a marker entity 426, a dropper entity 428, and a queue selector/mapping entity 430." There is no further reference in *Gai et al.* to either the "shaper entity 426" or the "queue selector/mapping entity 430," much less any disclosure of how one mention of these entities by *Gai et al.* could suggest "transmitting a control message to **establish a configuration** of a scheduler **and one or more associated output buffers**."

Moreover, the Examiner (Office Action dated September 27, 2004, page 6), in the rejection of claims 2 and 22, contends that it would have been obvious "to combine Gibson's system and Gai's access control lists to give the access points more use than just security such as better identification of incoming packets and rules to follow (Column 3, lines 17-40)." However, the cited portion of *Gai et al.* states (col. 3: 17-34, emphasis added):

> Access control lists are primarily used to provide security. Thus, for a given interface, only a single list is evaluated per direction. For purposes of security, moreover, the lists are relatively short. Nevertheless, **the evaluation of such lists by software modules can significantly degrade the intermediate device's performance (e.g., number of packets processed per second)**. This degradation in performance has been accepted mainly due to a lack of acceptable alternatives. It is proposed, however, to expand the use of access control lists for additional features besides just security decisions. For example, **access control**

> **lists may also be used to determine whether a given packet should be encrypted and/or whether a particular quality of service (QoS) treatment should be applied**. Accordingly, it is anticipated that multiple access control lists may be assigned to a single interface. As additional access control lists are defined and evaluated per packet, the **reduction in performance will likely reach unacceptable levels**.

There is no mention of using the lists for "better identification of incoming packets and rules to follow" as the Examiner contends, but there is discussion of how use of the lists can **degrade performance**. As *Gibson et al.* is concerned with establishing bi-directional communication sessions, particularly for telephony applications, wherein, in the preferred example, the established connection provides a guaranteed level of quality of service (see Abstract), there is no motivation to combine *Gibson et al.* and *Gai et al.*'s access control lists, as the addition of the lists would **degrade performance**, with no added benefit to *Gibson et al.*'s communication sessions. Obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Further, as the addition of the lists of *Gai et al.* would degrade performance of *Gibson et al.*'s communication sessions, the references teach away from their combination. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 218 USPQ 769 (Fed. Cir. 1983). A prior art reference must be considered in this entirety including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, if a proposed modification would render the prior art being

modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the Advisory Action dated January 19, 2005, the Examiner states:

> Regarding the argument to the combination of Gibson and Gai, as seen in the motivation that access lists increase security of an access device, while it may decrease the speed of a system, it prevents further prevents [*sic*] unauthorized access thus improving preformance [*sic*] in the long run.

However, col. 3: 17-34, as part of the "Background" section of *Gai et al.*, is directed to disclosing access control lists as potentially leading to a "reduction in performance" that "will likely reach unacceptable levels," which clearly teaches against using access control lists in *Gibson et al.* which, as discussed above, is concerned with establishing bi-directional communication sessions, particularly for telephony applications, wherein, in the preferred example, the established connection provides a guaranteed level of quality of service (see Abstract).

Thus, Appellants respectfully request reversal of the rejection with respect to claims 2, 7, 10-12, 22, 27, and 29-31.

2. CLAIMS 13 AND 32 ARE NOT RENDERED OBVIOUS BY *GIBSON ET AL.* IN VIEW OF *NILAKANTAN ET AL.*

With regard to the obviousness rejections of claims 13 and 32, Appellants respectfully submit that the deficiencies of *Gibson et al.* are also not cured by the secondary reference of *Nilakantan et al.*, which is cited (Office Action dated September 27, 2004, page 8) as supposedly teaching "a system with a main server controller access nodes, where the main server can inform the access points to issue messages that it would normally have to send through the network." Moreover, claim 13 recites, "in response to service processing by the external processor, injecting a packet from the external processor into packet flow through the programmable access device."

The Examiner (Office Action dated September 27, 2004, page 8) contends that it would have been obvious "to use Nilakantan's teachings of reducing traffic by allowing access nodes spoof messages from the server in Gibson's system in order to reduce the number of messages that have to originate from the main server (Column 3, lines 24-43)." However, *Gibson et al.* makes no mention of any "access nodes" for which spoofing messages from a server could be useful, and, as discussed previously, *Gibson et al.* is concerned with establishing bi-directional communication sessions, particularly for telephony applications, wherein, in the preferred example, the established connection provides a guaranteed level of quality of service (see Abstract). Thus, the reasons proferred by the Examiner for combining the references makes no sense, other than adding a level of useless complexity to *Gibson et al.* Obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. *See, e.g., McGinley v. Franklin Sports, Inc., supra.*

The Examiner (Advisory Action dated January 19, 2005) states:

> Regarding the argument to the combination of Gibson and Nilakatan [*sic*], the applicant argues that the combination would not make sense since Gibson does not disclose access nodes. The examiners [*sic*] disagrees, Gibson's end nodes are the same thing as access nodes, and perform the same functions.

Appellants respectfully submit that the "end nodes" of *Gibson et al.* have no need to spoof messages from a server, other than adding new levels of complexity to the system of *Gibson et al.* as discussed above. Thus, Appellants respectfully request reversal of the rejection with respect to claims 13 and 32.

3. CLAIMS 3 AND 23 ARE NOT RENDERED OBVIOUS BY *GIBSON ET AL., GAI ET AL.*, AND *NILAKANTAN ET AL.*

Regarding the obviousness rejections of claims 3 and 23, Appellants respectfully submit that the deficiencies of *Gibson et al.* and *Gai et al.* are not cured by the further secondary

reference of *Nilakantan et al.*, which is cited as supposedly disclosing a system with a main server and border nodes, where the main server can tell the border nodes to stop sending certain packets. Similarly to its rejection of claims 13 and 32, the Examiner (Office Action dated September 27, 2004, pp. 8-9) contends that it would have been obvious "to use Nilakantan's teachings of reducing traffic by allowing access nodes spoof messages from the server in Gibson's system in order to reduce the traffic going to the main server (Column 2, lines 6-21)." However, as discussed above, *Gibson et al.* makes no mention of any "access nodes" for which spoofing messages from a server could be useful, and, as discussed previously, *Gibson et al.* is concerned with establishing bi-directional communication sessions, particularly for telephony applications, wherein, in the preferred example, the established connection provides a guaranteed level of quality of service (see Abstract). Thus, the reasons proferred by the Examiner for combining the references makes no sense, other than adding a level of useless complexity to *Gibson et al.* Obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. *See, e.g., McGinley v. Franklin Sports, Inc., supra.* Thus, Appellants respectfully request reversal of the rejection with respect to claims 3 and 23.

4. CLAIMS 5 AND 25 ARE NOT RENDERED OBVIOUS BY *GIBSON ET AL.* IN VIEW OF *HAAS.*

Turning attention to the obviousness rejections of claims 5 and 25, Appellants respectfully submit that the addition of *Haas* also fails to satisfy "**responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for service processing in accordance with the configuration.**" *Haas* (per Abstract) is concerned with a data

communications architecture in which high level communications services provided to a host processor are arranged into independent horizontal functions that are processed in parallel. Conditional dependencies among the horizontal functions are resolved by a connector that interfaces the horizontal functions to an application layer of the host processor. A high-level protocol specification is obtained by choosing appropriate values for parameters of the horizontal functions which are parametrically programmable. *Haas* is cited by the Examiner (Office Action dated September 27, 2004, page 9) for a supposed teaching that an access device's configured policy should include a retransmissions policy. However, claim 5 recites, "transmitting a monitor control message comprises **transmitting a control message to establish a threshold number of allowed retransmissions**." The Examiner does not address how the recited features are met by *Gibson et al.* and *Haas*, but instead merely contends that it would have been obvious "to use Haas' teachings of a **retransmission policy** on Gibson's network node reconfiguration system" with no discussion of how any "retransmission policy" of *Haas* would be implemented with *Gibson et al.*, much less any discussion of "transmitting a monitor control message comprises **transmitting a control message to establish a threshold number of allowed retransmissions**," again in contravention of 35 U.S.C. § 132 as uninformative, and MPEP § 706.02(j), as discussed previously.

The Examiner (Advisory Action dated January 19, 2005) further states:

> Regarding the argument to the combination of Gibson and Haas, the applicant argues that there is no motivation to use Haas's teachings in Gibson's system. The examiner disagrees, because Haas uses a retransmission policy in order to reduce traffice [*sic*] in a network and that policy would help any network that may have problems with having too many retransmissions such as Gibson's.

However, a careful study of *Gibson et al.* finds no mention of "retransmissions," much less any mention of "problems with having too many retransmissions" as contended by the

Examiner. Obviousness rejections require some evidence **in the prior art** of a teaching, motivation, or suggestion to combine and modify the prior art references. See, e.g., *McGinley v. Franklin Sports, Inc., supra.* Thus, Appellants respectfully request reversal of the rejection with respect to claims 5 and 25.

5. CLAIMS 17 AND 36 ARE NOT RENDERED OBVIOUS BY *GIBSON ET AL.* IN VIEW OF *SAUTER.*

With regard to the obviousness rejections of claims 17 and 36, the combination of *Gibson et al.* and *Sauter* similarly fails to teach "**responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for service processing in accordance with the configuration.**" *Sauter* (per Abstract) is directed to a protocol used for communication between a hypermedia system and a large number of interconnected editors communicating with a hyperstructure. The protocol uses a set of messages that allow each editor to manipulate and manage the contents of nodes, and it is also manipulated by the nodes and is accessible through a programming interface. *Sauter* is cited by the Examiner (Office Action dated September 27, 2004, page 9) as supposedly teaching managing a network node with an API. However, there is no mention or suggestion anywhere in *Sauter* of establishing a configuration in response to a control message, and communicating a first portion of received messages to an external processor in accordance with the configuration.

Thus, Appellants respectfully request that the rejection with respect to claims 2-3, 5, 7, 10-13, 17, 22-23, 25, 27, 29-32, and 36 be reversed.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellants request the Honorable Board to reverse each of the Examiner's rejections.

Respectfully Submitted,

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APPENDIX

1. (Previously Presented) A method of communication in a network access system including an external processor and a programmable access device, said method comprising:

transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device;

receiving, by the programmable access device, messages from a first network external to the network access system via a first network interface;

communicating a first portion of the received messages from the programmable access device to the external processor for service processing in accordance with the configuration; and

routing a second portion of the received messages not communicated to the external processor from the network access system via a second network interface different from the first network interface to a second network external to the network access system, wherein the second network is different from the first network.

2. (Previously Presented) The method of Claim 1, wherein:

transmitting a control message comprises transmitting a filter control message to establish a configuration of a packet header filter in the programmable access device; and

communicating messages comprises communicating network messages filtered from a packet flow by the packet header filter of the programmable access device.

3. (Original) The method of Claim 2, and further comprising limiting communication of network messages from the programmable access device to the external processor by sending the programmable access device a message setting message interface flags in the programmable access device.

4. (Original) The method of Claim 1, wherein:

transmitting a control message comprises transmitting a monitor control message to establish a configuration of a monitor in the programmable access device; and

communicating messages comprises communicating reporting messages from the programmable access device to the external processor in response to the configuration of the monitor.

5. (Original) The method of Claim 4, wherein transmitting a monitor control message comprises transmitting a control message to establish a threshold number of allowed retransmissions.

6. (Previously Presented) The method of Claim 4, wherein transmitting a monitor control message comprises transmitting a threshold activity level.

7. (Original) The method of Claim 1, wherein transmitting a control message comprises transmitting a policer control message to establish a configuration of a policer in the programmable access device.

8. (Original) The method of Claim 1, wherein transmitting a control message comprises transmitting a forwarding table control message to establish a configuration of a forwarding table in the programmable access device.

9. (Original) The method of Claim 8, wherein establishing a configuration of a forwarding table comprises establishing a new forwarding table in the programmable access device.

10. (Original) The method of Claim 1, wherein transmitting a control message comprises transmitting a control message to establish a configuration of a scheduler and one or more associated output buffers in the programmable access device.

11. (Original) The method of Claim 1, wherein transmitting a control message comprises transmitting a shaper control message to establish a configuration of a shaper in the programmable access device.

12. (Original) The method of Claim 1, wherein:

transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a control message specifying a source from which packets are not to be accepted; and

the method further comprises dropping packets from the specified source by the programmable access device.

13. (Original) The method of Claim 1, and further comprising in response to service processing by the external processor, injecting a packet from the external processor into packet flow through the programmable access device.

14. (Original) The method of Claim 1, wherein

transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a session deletion control message; and

the method further comprises the programmable access device deleting a session specified by the session deletion control message.

15. (Original) The method of Claim 1, and further comprising the external processor signaling network hardware to establish a network connection in response to receipt of a message from the programmable access device.

16. (Original) The method of Claim 1, and further comprising exchanging keepalive messages between the external processor and the programmable access device.

17. (Original) The method of Claim 1, wherein transmitting a control message comprises accessing a control processor on the external processor via an application programming interface.

18. (Original) The method of Claim 1, and further comprising in response to said control message, sending an acknowledgement from said programmable access device to said external processor.

19. (Original) The method of Claim 1, and further comprising communicating a state of a session from the programmable access device to the external processor in response to failure of a service controller servicing the session in the external processor.

20. (Original) The method of Claim 1, wherein transmitting a control message comprises transmitting a control message via an intermediate communication network.

21. (Previously Presented) A network access system, comprising:

an external processor that transmits a control message specifying a configuration; and

a programmable access device that receives messages from a first network external to the network access system via a first network interface, and that, responsive to the control message, establishes the configuration specified by the control message and communicates a first portion of the received messages to the external processor for

service processing in accordance with the configuration, and forwards a second portion of the received messages not communicated to the external processor for routing, via a second network interface different from the first network interface, to a second network external to the network access system, wherein the second network is different from the first network.

22. (Original) The network access system of Claim 21, wherein:

the programmable access device includes a packet header filter;

the control message comprises a filter control message that establishes a configuration of the packet header filter; and

the messages communicated by the programmable access device comprise network messages filtered from a packet flow by the packet header filter of the programmable access device.

23. (Original) The network access system of Claim 22, said external processor comprising means for limiting communication of network messages from the programmable access device to the external processor by sending the programmable access device a message setting message interface flags in the programmable access device.

24. (Original) The network access system of Claim 21, wherein:

the programmable access device comprises a monitor for network traffic;

the control message comprises a monitor control message that specifies a configuration of the monitor; and

the messages communicated by the programmable access device comprise reporting messages in accordance with the configuration.

25. (Original) The network access system of Claim 24, wherein the control message specifies a threshold number of allowed retransmissions.

26. (Original) The network access system of Claim 24, wherein the monitor control message specifies a threshold activity level.

27. (Original) The network access system of Claim 21, wherein:

the programmable access device comprises a policer, and

the control message comprises a policer control message that specifies a configuration of the policer.

28. (Original) The network access system of Claim 21, wherein the control message comprises a forwarding table control message that specifies a configuration for a forwarding table.

29. (Original) The network access system of Claim 21, wherein:

the programmable access device comprises one or more output buffers for outgoing packets and an associated scheduler; and

the control message specifies a configuration of the scheduler and the one or more output buffers.

30. (Original) The network access system of Claim 21, wherein:

the programmable access device comprises a shaper; and

the control message comprises a shaper control that specifies a configuration of the shaper.

31. (Original) The network access system of Claim 21, wherein:

the control message specifies a source from which packets are not to be accepted; and

the programmable access device comprises means for dropping packets from the specified source.

32. (Original) The network access system of Claim 21, said external processor comprising means, responsive to service processing by the external processor, for injecting a packet into packet flow through the programmable access device.

33. (Original) The network access system of Claim 21, wherein

the control message comprises a session deletion control message; and

the programmable access device comprises means for deleting a session specified by the session deletion control message.

34. (Original) The network access system of Claim 21, wherein the external processor comprises a signaling processor that signals network hardware to establish a network connection in response to a message received from the programmable access device.

35. (Original) The network access system of Claim 21, said external processor and said programmable access device each comprising means for exchanging keepalive messages.

36. (Original) The network access system of Claim 21, wherein the external processor comprises a control processor that outputs said control message and an application programming interface through which said control processor is accessed.

37. (Original) The network access system of Claim 21, said programmable access device comprising means, responsive to said control message, for sending an acknowledgement to said external processor.

38. (Original) The network access system of Claim 21, wherein:

the external processor comprises a plurality of service controllers that provide service processing; and

the programmable access device comprises means for communicating a state of a session to the external processor in response to failure of a service controller servicing the session.

39. (Original) The network access system of Claim 21, and further comprising a network coupling the external processor and the programmable access device.

40. (Previously Presented) A distributed router comprising:

a first network interface through which packets are communicated with a first network;

a second network interface different from the first network interface through which packets are communicated with a second network different from the first network;

a programmable access device configured to input messages from the first network via the first network interface; and

an external processor configured to receive, from the programmable access device, a first portion of the input messages and to transmit a control message to the programmable access device specifying a configuration to control the selection of the first portion,

wherein the programmable access device forwards a second portion of the input messages not received by the external processor for routing via the second network interface to the second network.